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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,975	02/26/2002	David Lee Hosler	08935-5/P10	9039

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EXAMINER

FLETCHER, MARLON T

ART UNIT	PAPER NUMBER
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2837

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary**Application No.**

10/085,975

Applicant(s)

HOSLER, DAVID LEE

Examiner

Marlon T. Fletcher

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 and 30-49 is/are pending in the application.
- 4a) Of the above claim(s) 45-49 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-24 is/are allowed.
- 6) ☒ Claim(s) 1-6, 13-15, 17-20, 25, 26, 29, 30 and 39-44 is/are rejected.
- 7) ☒ Claim(s) 7-12, 16, 27, 28 and 31-38 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6, 13-15, 20, 25-26, 29, 30, and 41, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi et al. (5,371,428) in view of Ikeda (4,520,238).

Kikuchi et al. (claims 1 and 29) disclose a transducer (figure 1) comprising: a housing (1); vibrating hardware (2) (col. 4, ln. 60 through col. 5, ln. 3); and damping adhesive disposed within the housing (col. 2, lns. 38-49; col. 2, ln. 64 through col. 4, ln. 2; and col. 3, lns. 4-24 and lns 33-37).

Kikuchi et al. (claim 2) disclose the transducer of claim 1 wherein the vibrating hardware comprises: an electrical signal carrier (6, 7) disposed at least substantially within the housing, with the electric signal carrier being structured to carry an electrical signal; and a magnetic member (electrodes 212 and 213, which create a magnetic domain) disposed at least substantially within the housing, with the electric signal carrier and magnetic member being free to vibrate relative to each other (column 4, lns. 48-51; and col. 4, ln. 57 through col. 5, ln. 3).

Kikuchi et al. (claim 3) disclose the transducer of claim 1 wherein the vibrating hardware comprises: a piezoelectric member made of piezoelectric material, with

Art Unit: 2837

portions of the piezoelectric member being free to vibrate relative to each other (col. 4, ln. 60 through col. 5, ln. 3); and an electric signal carrier structured to be in electrical communication with the piezoelectric member (col. 4, ln. 57 through col. 5, ln. 3).

Kikuchi et al. (claims 4, 25, and 26) in view of the above, further disclose the transducer comprising: carrier connection hardware structured to physically connect the electrical signal carrier member to the housing (figures 1 and 2); member connection hardware structured to physically connect the magnetic member to the housing, with the carrier connection hardware and the member connection hardware being structured and located to allow the electrical signal carrier and the magnetic member to vibrate relative to each other (figure 2).

Kikuchi et al. (claim 5) disclose the transducer, wherein the housing is structured to be sufficiently tight (col. 5, lns. 4-24; abstract).

Kikuchi et al. (claim 13) disclose the transducer, wherein the damping is shock absorber adhesive (column 5, lines 4-46).

Kikuchi et al. (claims 20 and 41) inherently disclose the transducer, further comprising an electric signal supply structured and located to supply an electric signal to the electric signal carrier, with the magnitude and time distribution of the supplied electric signal being sufficient to drive the electric signal carrier and the magnetic member to vibrate relative to each other.

Kikuchi et al. does not disclose a damping liquid.

However, Ikeda discloses a pickup or transducer device for picking up sounds (abstract). Ikeda discloses a transducer comprising: a housing (1); vibrating hardware;

and damping liquid disposed within the housing, wherein the vibrating element is immersed in the liquid (column 7, lines 27- column 8, line 48)

With respect to claims 15 and 16, Ikeda discloses the damping liquid having a viscosity based on temperature (column 8, lines 17-29).

(Claims 6 and 30) Kikuchi et al. do not disclose a coil. However Official Notice is taken with respect to it being well known in the art to use electromagnetic transducers for carrying an electrical signal and providing vibration, wherein the transducer includes a coil for carrying an electrical signal.

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the teachings of Ikeda and the well known teachings in the art with the apparatus of Kikuchi et al., because the teachings allow the piezoelectric transducer to be substituted with electromagnetic transducer structure, wherein vibration and signal transmission is provided through a damping liquid.

3. Claims 17-19 , 39, and 40, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi et al. in view of Ikeda as applied to claims 1-6, 13, 20, 25-26, 29, 30, and 41 above, and further in view of Fishman et al. (5,153,363)).

Kikuchi et al. and Ikeda are discussed above. Neither disclose a musical instrument.

However, Fishman et al. (363) (claim 17) disclose a transducer for use with a musical instrument, wherein the electric signal carrier, the magnetic member, the carrier

connection hardware, and the member connection hardware are structured and located so that acoustic vibrations of the musical instrument are sufficiently energetic to cause the magnetic member and the electric signal carrier to vibrate relative to each other (figures 1-5).

Fishman et al. ('363) (claims 18, 39, and 40) disclose the transducer hardware further comprising an amplifier for electrically amplifying the electric signal of the electric signal carrier (col. 4, Ins. 36-41).

Official Notice is taken (claim 19) with respect to it being well known in the art to use a speaker for transducing the amplified electric signal into acoustic vibration.

Fishman et al. (claim 42) further disclose a method of designing a musical instrument assembly, the method comprising the steps of: providing a musical instrument structured to output acoustic vibrations (figure 1); providing a plurality of transducers (34) provided for each string (16), with each transducer respectively comprising: an electrical signal carrier (28) structured to carry an electrical signal', using each transducer of the plurality of transducers to transduce the acoustic vibration of the musical instrument into a plurality of respective electrical signals (figures 1 and 2).

Official Notice is taken (claims 42 and 43) with respect to it being well known in the art to select optimal transducers for producing desired musical sounds.

Fishman et al. (claim 44) inherently disclose the method, wherein the review of the electric signals comprises the steps of: transducing the plurality of electrical signals back into output acoustic vibration; and listening to the output acoustic vibration (figure 1).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the teachings of Fishman et al. and Ikeda with the teachings of Kikuchi et al., because the teachings allow the transducer to be used in a musical environment, wherein electrical vibration is converted into sound.

Allowable Subject Matter

4. Claims 21-24 are allowed.
5. Claims 7-12, 16, 27, 28, and 31-38, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicant's arguments with respect to claims 1-28 and 30-44 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marlon T. Fletcher whose telephone number is 571-272-2063. The examiner can normally be reached on M-w, F.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on 571-272-2107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2837

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MTF

January 8, 2006



MARLONT FLETCHER
PRIMARY EXAMINER